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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/790,946	03/02/2004	George Suwala	36765	2173

26327 7590 11/25/2009

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EXAMINER	
ALIA, CURTIS A	
ART UNIT	**PAPER NUMBER**
2474	

MAIL DATE	DELIVERY MODE
11/25/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/790,946	SUWALA ET AL.	
	Examiner	Art Unit	
	Curtis A. Alia	2474	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 July 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11,13-18 and 20-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11,13-18 and 20-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Appeal

Applicant's appeal filed 29 July 2008 has been considered and is persuasive. The Final Rejection mailed 21 January 2009 has been withdrawn. Claims 1-11, 13-18 and 20-24 are still pending in this application, with claims 1, 11 and 18 being independent. Please note that AU 2416 has been changed to AU 2474.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Response to Arguments

1. Applicant's arguments with respect to claims-11, 13-18 and 20-24 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

2. Claims 1-2, 4-5, and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Finn et al. (previously cited US 6,728,205).

Regarding claim 1, Finn discloses an apparatus comprising a detector (see figure 1, node 12a) and a first protector (see Figure 1, Node 12b) configured to perform protection switching in response to one ore more notifications of a condition received from the detector (see column 42, line 54 to column 43, line 4, failure message arrival at a node indicating a failed link), and to

register with the detector to be notified of the condition (see column 15, lines 29-35, node 12a's APS processor receives information from other nodes in the network of their relation to one another, thus registering for future notification of conditions), wherein the detector is configured to receive one or more registration requests from the first protector (see column 15, lines 29-35, APS processor of node 12a receives communications from other nodes concerning connectivity within the network, and column 17, lines 34+, each node transmits to all the other nodes information such as its topology information, load balancing information, load and capacity information, and other data useful in protection switching, which can be interpreted as registering its position and connectivity in the network with the other nodes), and to notify the first protector of the condition upon detection of the condition (see column 15, lines 57-65, information concerning the nodes and links and preferred paths among nodes stored in routing table can be accessed and used to automatically re-route the signals through the secondary or protection path, and see column 40, lines 40-50, upon detection of a failure a help message is broadcast to the nodes in the network to inform them to perform protection switching where needed).

Regarding claim 2, Finn discloses that the protection switching includes switching the physical path of traffic from a working facility to a backup facility while maintaining an UP state indication of a single logical interface including the working facility and the backup facility such that higher-level routing information does not change in response to the switching the physical path (see column 15, lines 10-13, only predetermined logical connections are made between the

nodes, meaning that pre-established logical source-destination connections are decided on during setup and are maintained while physical paths are switched after a failure).

Regarding claim 4, Finn discloses that the protection switching includes switching traffic to a backup component from a component corresponding to the condition (see column 15, lines 58-65, after a node failure, the flow is re-routed through a secondary path (and ultimately secondary components) to reach the destination uninterrupted).

Regarding claim 5, Finn discloses that the apparatus further comprising a second protector (see Figure 1, other network node 12e comprising a protection switching module), wherein the second protector is configured to perform protection switching in response to one or more notifications received from the first protector (see column 42, line 67 to column 43, line 4, a node forwards the failure message to other nodes along the paths corresponding to that node), and to register with the first protector to be notified of a particular condition (see column 15, lines 29-35, each node receives information concerning the number of nodes, each node's APS processor does this, as the topology for the network is stored in each node's routing table, therefore the second protector also registers with the first protector), wherein the first protector is configured to receive one or more registration requests from the second protector (see column 15, lines 29-35, each node receives information concerning the number of nodes, each node's APS processor does this, as the topology for the network is stored in each node's routing table, and column 17, lines 34-40, each node transmits its topology information to all the other nodes, which can be interpreted as registering its position and connectivity in the network with the other

nodes), to notify the second protector upon notification of the particular condition (see column 42, line 67 to column 43, line 4, a node forwards the failure message to other nodes along the paths corresponding to that node), and to register with a detector to be notified of the particular condition (see column 15, lines 29-35, node 12e receives information from nodes 12b and 12a to acquire the network topology and other important parameters), wherein the detector is configured to identify the particular condition, and to notify the first protector of the particular condition upon detection of the particular condition (see column 15, lines 57-65, information concerning the nodes and links and preferred paths among nodes stored in routing table can be accessed and used to re-route automatically the signals through the secondary or protection path, and see column 40, lines 40-50, upon detection of a failure a help message is broadcast to the nodes in the network to inform them to perform protection switching where needed).

Regarding claim 8, Finn discloses that the apparatus further comprising a second protector (see Figure 1, node 12e comprising a protection switching module), wherein the second protector is configured to perform protection switching in response to one or more notifications received from the first protector and the detector (see column 42, line 67 to column 43, line 4, a node forwards the failure message to other nodes along the paths corresponding to that node), to register with the first protector to be notified of a particular condition and to register with the detector to be notified of a second particular condition (see column 15, lines 29-35, each node registers with all other nodes so that every node has the proper topology in the routing table), wherein the first protector is configured to send a notification of the particular condition to the second protector in response to the notification of the particular condition by the detector (see

column 42, line 67 to column 43, line 4, a node forwards the failure message to other nodes along the paths corresponding to that node), and register with the detector to be notified of the particular condition (see column 15, lines 29-35, node 12e sends information to node 12a to acquire network information required for determining the proper topology table and primary and secondary links in the network), and wherein the detector is configured to receive one or more registration requests from the first and second protectors (see column 15, lines 29-35, node 12a receives information from node 12e to acquire network information required for determining the proper topology table and primary and secondary links in the network, and column 17, lines 34+, each node transmits its topology information and other important information regarding protection switching to all the other nodes, which can be interpreted as registering its position and connectivity in the network with the other nodes), to notify the first protector upon detection of the particular condition, and to notify the second protector upon detection of the second condition (see column 15, lines 57-65, information concerning the nodes and links and preferred paths among nodes stored in routing table can be accessed and used to re-route automatically the signals through the secondary or protection path, and see column 40, lines 40-50, upon detection of a failure a help message is broadcast to the nodes in the network to inform them to perform protection switching where needed).

Claim Rejections - 35 USC § 103

3. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Finn in view of Zettinger et al. (previously cited US 2004/0085895).

Regarding claim 3, Finn does not explicitly teach that the protection switching includes switching traffic to a backup facility from a facility corresponding to the condition.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Zettinger. In particular, Zettinger teaches that the same protection switching that occurs on the switch level can be done on a facility level (see paragraph 27, lines 1-8, facility protection switching is when entire protection switch fabrics are protection switched).

In view of the above, having the apparatus of Finn, then given the well-established teaching of Zettinger, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the apparatus of Finn as taught by Zettinger, since Zettinger stated that switching every node in a facility would take far longer than the 50ms switching time as required in communication networks like those using SONET.

4. Claims 7 and 9-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Finn in view of Lindskog et al. (previously cited US 6,665,262 B1).

Regarding claim 7, Finn discloses that the apparatus further comprises a second protector (see Figure 1, other network node 12b comprising a protection switching module) wherein the second protector is configured to perform protection switching in response to one or more notifications received from the first protector (see column 42, line 67 to column 43, line 4, a node forwards the failure message to other nodes along the paths corresponding to that node), and to register with the first protector to be notified of a particular condition (see column 15, lines 29-35, each node receives information concerning the number of nodes, each node's APS

processor does this, as the topology for the network is stored in each node's routing table, therefore the second protector also registers with the first protector), wherein the first protector is configured to receive one or more registration requests from the second protector (see column 15, lines 29-35, each node receives information concerning the number of nodes, each node's APS processor does this, as the topology for the network is stored in each node's routing table, and column 17, lines 34-40, each node transmits its topology information to all the other nodes, which can be interpreted as registering its position and connectivity in the network with the other nodes) and the detector is configured to identify the particular condition, and to notify the first protector of the particular condition upon detection of the particular condition (see column 15, lines 57-65, information concerning the nodes and links and preferred paths among nodes stored in routing table can be accessed and used to re-route automatically the signals through the secondary or protection path, and see column 40, lines 40-50, upon detection of a failure a help message is broadcast to the nodes in the network to inform them to perform protection switching where needed).

Finn does not explicitly teach that the first protector is configured to notify the second protector upon notification of the particular condition if not previously notified of another particular condition else not to notify the second protector of the particular condition.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Lindskog. In particular, Lindskog teaches that the first protector is configured to notify the second protector upon notification of the particular condition if not previously notified of another particular condition else not to notify the second protector of the particular condition, and to register with the detector to be notified of the particular condition (see column 3, lines 27-35,

when the node receives alarm data notifying the node of a fault (presumably a new alarm, i.e. not previously notified), it will pass a new alarm to an interconnected node to handle the fault, else it may pass it back up to a higher level node, thus not forwarding it to the interconnected node).

In view of the above, having the apparatus of Finn, then given the well-established teaching of Lindskog, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the apparatus of Finn as taught by Lindskog since Lindskog stated that the recursive way that alarm messages are passed down the hierarchy distributes the work each node has to do to recover from the fault.

Regarding claim 9, Finn discloses a second protector (see Figure 1, other network node 12e comprising a protection switching module), wherein the second protector is configured to perform protection switching in response to one or more notifications received from the first protector (see column 42, line 67 to column 43, line 4, a node forwards the failure message to other nodes along the paths corresponding to that node), and to register with the first protector to be notified of a particular condition (see column 15, lines 29-35, each node receives information concerning the number of nodes, each node's APS processor does this, as the topology for the network is stored in each node's routing table, therefore the second protector also registers with the first protector), wherein the first protector is configured to receive one or more registration requests from the second protector, and to register with the detector to be notified of the particular condition (see column 15, lines 29-35, each node receives information concerning the number of nodes, each node's APS processor does this, as the topology for the network is stored in each node's routing table, and column 17, lines 34-40, each node transmits its topology

information to all the other nodes, which can be interpreted as registering its position and connectivity in the network with the other nodes), wherein the detector is configured to identify the particular condition and to notify the first protector of the particular condition upon detection of the particular condition (see column 15, lines 58-65, information concerning the nodes and links and preferred paths among nodes stored in routing table can be accessed and used to re-route automatically the signals through the secondary or protection path, and see column 40, lines 40-50, upon detection of a failure a help message is broadcast to the nodes in the network to inform them to perform protection switching where needed).

Finn does not explicitly teach that the first protector is further configured to attempt to protection switch upon notification of the particular condition, and in response to the attempted protection switch failing, notifying the second protector of the particular condition, else not notifying the second protector of the particular condition.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Lindskog. In particular, Lindskog teaches that the first protector is further configured to attempt to protection switch upon notification of the particular condition, and in response to the attempted protection switch failing, notifying the second protector of the particular condition, else not notifying the second protector of the particular condition. (see column 3, lines 28-32, fault agent determines if the underlying fault that caused the alarm can be handled at the current node (interpreted as attempting to handle the fault, the fault handling being the protection switching of a failed link/node in Finn).if not the fault agent produces a new alarm…and passes the new alarm to an interconnected fault agent (the second protector)).

In view of the above, having the apparatus of Finn, then given the well-established teaching of Lindskog, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the apparatus of Finn as taught by Lindskog since Lindskog stated that the recursive way that alarm messages are passed down the hierarchy distributes the work each node has to do to recover from the fault.

Regarding claim 10, Finn discloses the apparatus of claim 1, further comprising a second protector and a third protector (see Figure 1, items 12b and 12c, each node acts as a protector), wherein the second protector is configured to perform protection switching in response to one or more notifications received from the first protector (see column 42, line 67 to column 43, line 4, node forwards the failure message to other nodes), and to register with the first protector to be notified of the condition (see column 15, lines 29-35, each node receives information concerning the number of nodes, each node's APS processor does this, as the topology for the network is stored in each node's routing table, and column 17, lines 34-40, each node transmits its topology information to all the other nodes, which can be interpreted as registering its position and connectivity in the network with the other nodes), wherein the third protector is configured to register with the second protector to be notified of the condition (see column 15, lines 29-35, each node receives information concerning the number of nodes, each node's APS processor does this, as the topology for the network is stored in each node's routing table, and column 17, lines 34-40, each node transmits its topology information to all the other nodes, which can be interpreted as registering its position and connectivity in the network with the other nodes), wherein the second protector is configured to receive one or more registration requests from the

third protector (see column 15, lines 29-35, each node receives information concerning the number of nodes, each node's APS processor does this, as the topology for the network is stored in each node's routing table, and column 17, lines 34-40, each node transmits its topology information to all the other nodes, which can be interpreted as registering its position and connectivity in the network with the other nodes).

Finn does not explicitly teach that the first protector is configured to determine whether to cause a protection switch or to notify the second protector of the condition, the third protector is configured to perform protection switching in response to one or more notifications received from the second protector, and the second protector is configured to determine whether to cause a protection switch or to notify the third protector of the condition.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Lindskog. In particular, Lindskog teaches that the first protector is configured to determine whether to cause a protection switch or to notify the second protector of the condition, the third protector is configured to perform protection switching in response to one or more notifications received from the second protector, and the second protector is configured to determine whether to cause a protection switch or to notify the third protector of the condition (see column 3, lines 28-38, each node comprises a fault agent that is capable of making a decision as to whether it can fix the fault in the network, and if it cannot, then it forwards an alarm message to its interconnected nodes, and they repeat this operation until the fault is recovered from, and thus teaches the multiple redundancy performed by the second and third protectors).

In view of the above, having the apparatus of Finn, then given the well-established teaching of Lindskog, it would have been obvious to a person having ordinary skill in the art at

the time of the invention to modify the apparatus of Finn as taught by Lindskog since Lindskog stated that the recursive way that alarm messages are passed down the hierarchy distributes the work each node has to do to recover from the fault.

Regarding claim 11, Finn discloses an apparatus comprising a detector configured to detect a particular condition and to notify a first protector of the particular condition (see Figure 1, node 12a), and the first protector configured to receive an indication of the particular condition from the detector (see figure 1, node 12b and column 40, lines 40-50, upon detection of a failure a help message is broadcast to the nodes in the network to inform them to perform protection switching where needed).

Finn does not explicitly teach that the first protector is configured to identify whether to perform protection switching itself based on the particular condition or to notify a second protector of the particular condition for the second protector to perform the protection switching, and the second protector is configured to receive a notification of the particular condition from the first protector, and in response to perform protection switching based on the particular condition and that identifying whether to perform protection switching itself based on the particular condition or to notify a second protector of the particular condition includes attempting by the first protector to protection switch, and in response of the protection switch, to notify the second protector of the particular condition

However, the above-mentioned claimed limitations are well known in the art, as evidenced by Lindskog. In particular, Lindskog teaches that the first protector is configured to identify whether to perform protection switching itself based on the particular condition or to

notify a second protector of the particular condition for the second protector to perform the protection switching, and the second protector is configured to receive a notification of the particular condition from the first protector, and in response to perform protection switching based on the particular condition (see column 3, lines 28-34, each node comprises a fault agent that is capable of making a decision as to whether it can fix the fault in the network, and if it cannot, then it forwards an alarm message to its interconnected nodes, and they repeat this operation until the fault is recovered from) and that identifying whether to perform protection switching itself based on the particular condition or to notify a second protector of the particular condition includes attempting by the first protector to protection switch, and in response of the protection switch, to notify the second protector of the particular condition (see column 3, lines 26-32, a node comprises a fault agent that is capable of making a decision as to whether it can fix the fault in the network, and if it cannot fix or recover from the fault, then it passes a new alarm message to another node to perform the same operation).

In view of the above, having the apparatus of Finn, then given the well-established teaching of Lindskog, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the apparatus of Finn as taught by Lindskog since Lindskog stated that the recursive way that alarm messages are passed down the hierarchy distributes the work each node has to do to recover from the fault.

Regarding claim 13, Finn does not explicitly teach that identifying whether to perform protection switching itself based on the particular condition or to notify a second protector of the

particular condition includes referencing a data structure to identify whether a second particular condition has been previously identified by a detector.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Lindskog. In particular, Lindskog teaches that identifying whether to perform protection switching itself based on the particular condition or to notify a second protector of the particular condition includes referencing a data structure to identify whether a second particular condition has been previously identified by a detector (see column 3, lines 56-60, when an event generator receives information from each node regarding the fault alarm, it collects this data and updates the fault information in an event database, thus allowing nodes to check whether another node has looked at a specific fault).

In view of the above, having the apparatus of Finn, then given the well-established teaching of Lindskog, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the apparatus of Finn as taught by Lindskog since Lindskog stated that the recursive way that alarm messages are passed down the hierarchy distributes the work each node has to do to recover from the fault.

Regarding claim 14, Finn does not explicitly teach that identifying whether to perform protection switching itself based on the particular condition or to notify a second protector of the particular condition includes referencing a data structure to identify whether a second particular condition is determined based on a fixed or programmed set of rules or user configuration commands.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Lindskog. In particular, Lindskog teaches that identifying whether to perform protection switching itself based on the particular condition or to notify a second protector of the particular condition includes referencing a data structure to identify whether a second particular condition is determined based on a fixed or programmed set of rules or user configuration commands (see column 4, lines 5-10, after each node returns information to the event generator, the event generator then sends the updated configuration information to any subsequent node that is determining whether it can handle the fault, thus dynamically changing the rules for determination at each node).

In view of the above, having the apparatus of Finn, then given the well-established teaching of Lindskog, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the apparatus of Finn as taught by Lindskog since Lindskog stated that the recursive way that alarm messages are passed down the hierarchy distributes the work each node has to do to recover from the fault.

Regarding claim 15, Finn discloses that the detector is further configured to detect a second particular condition and to notify the second protector of the second condition (see column 40, lines 40-50, upon detection of a failure a help message is broadcast to the nodes in the network to inform them to perform protection switching where needed). The detector can detect more than one condition and send a notification of a condition to all nodes affected by the condition.

Regarding claim 16, Finn does not explicitly teach that the second protector is configured to identify whether to perform protection switching itself based on the second particular condition or to notify a third protector of the second particular condition for the third protector to perform protection switching.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Lindskog. In particular, Lindskog teaches that the second protector is configured to identify whether to perform protection switching itself based on the second particular condition or to notify a third protector of the second particular condition for the third protector to perform protection switching (see column 3, lines 28-34, each node comprises a fault agent that is capable of making a decision as to whether it can fix the fault in the network, and if it cannot, then it forwards an alarm message to its interconnected nodes, and they repeat this operation until the fault is recovered from).

In view of the above, having the apparatus of Finn, then given the well-established teaching of Lindskog, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the apparatus of Finn as taught by Lindskog since Lindskog stated that the recursive way that alarm messages are passed down the hierarchy distributes the work each node has to do to recover from the fault.

Regarding claim 17, Finn does not explicitly teach that identifying whether to perform protection switching itself based on the second particular condition or to notify a second protector of the second particular condition is determined based on a fixed or programmed set of rules or user configurable commands.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Lindskog. In particular, Lindskog teaches that identifying whether to perform protection switching itself based on the second particular condition or to notify a second protector of the second particular condition is determined based on a fixed or programmed set of rules or user configurable commands (see column 4, lines 5-10, after each node returns information to the event generator, the event generator then sends the updated configuration information to any subsequent node that is determining whether it can handle the fault, thus dynamically changing the rules for determination at each node).

In view of the above, having the apparatus of Finn, then given the well-established teaching of Lindskog, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the apparatus of Finn as taught by Lindskog since Lindskog stated that the recursive way that alarm messages are passed down the hierarchy distributes the work each node has to do to recover from the fault.

Regarding claim 18, Finn discloses an apparatus comprising a detector including means for detecting a particular condition (see figure 1, node 12a), and means for notifying a first protector of the particular condition (see column 15, lines 57-65, information concerning the nodes and links and preferred paths among nodes stored in routing table can be accessed and used to automatically re-route the signals through the secondary or protection path, and see column 40, lines 40-50, upon detection of a failure a help message is broadcast to the nodes in the network to inform them to perform protection switching where needed), the first protector including means for receiving an indication of the particular condition from the detector (see

column 42, line 54 to column 43, line 4, failure message arrival at a node indicating a failed link), and the second protector including means for receiving a notification of the particular condition from the first protector and means for performing protection switching based on the particular condition (see column 42, line 67 to column 43, line 4, node forwards the failure message to other nodes).

Finn does not explicitly teach that the first protector includes means for identifying whether to perform protection switching itself based on the particular condition or to notify a second protector of the particular condition for the particular condition to perform protection switching and that the means for identifying whether to perform protection switching itself based on the particular condition or to notify a second protector of the particular condition includes means for attempting by the first protector to protection switch and in response to failure of the protection switch, to notify the second protector of the particular condition.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Lindskog. In particular, Lindskog teaches that the first protector includes means for identifying whether to perform protection switching itself based on the particular condition or to notify a second protector of the particular condition for the particular condition to perform protection switching (see column 3, lines 56-60, when an event generator receives information from each node regarding the fault alarm, it collects this data and updates the fault information in an event database, thus allowing nodes to check whether another node has looked at a specific fault) and that the means for identifying whether to perform protection switching itself based on the particular condition or to notify a second protector of the particular condition includes means for attempting by the first protector to protection switch and in response to failure of the

protection switch, to notify the second protector of the particular condition (see column 3, lines 26-32, a node comprises a fault agent that is capable of making a decision as to whether it can fix the fault in the network, and if it cannot fix or recover from the fault, then it passes a new alarm message to another node to perform the same operation).

In view of the above, having the apparatus of Finn, then given the well-established teaching of Lindskog, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the apparatus of Finn as taught by Lindskog since Lindskog stated that the recursive way that alarm messages are passed down the hierarchy distributes the work each node has to do to recover from the fault.

Regarding claim 20, Finn does not explicitly teach that the first protector includes means for identifying whether to perform protection switching itself based on the particular condition or to notify a second protector of the particular condition includes means for referencing a data structure to identify whether a second particular condition has been previously identified by a detector.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Lindskog. In particular, Lindskog teaches that the first protector includes means for identifying whether to perform protection switching itself based on the particular condition or to notify a second protector of the particular condition includes means for referencing a data structure to identify whether a second particular condition has been previously identified by a detector (see column 3, lines 56-60, when an event generator receives information from each

node regarding the fault alarm, it collects this data and updates the fault information in an event database, thus allowing nodes to check whether another node has looked at a specific fault).

In view of the above, having the apparatus of Finn, then given the well-established teaching of Lindskog, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the apparatus of Finn as taught by Lindskog since Lindskog stated that the recursive way that alarm messages are passed down the hierarchy distributes the work each node has to do to recover from the fault.

Regarding claim 21, Finn discloses that the detector includes means for detecting a second particular condition and means for notifying the second protector of the second condition (see column 40, lines 40-50, upon detection of a failure a help message is broadcast to the nodes in the network to inform them to perform protection switching where needed). The detector can detect more than one condition and send a notification of a condition to all nodes affected by the condition.

Regarding claim 22, Finn does not explicitly teach that the second protector includes means for identifying whether to perform protection switching itself based on the second particular condition or to notify a third protector of the second particular condition for the third protector to perform protection switching.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Lindskog. In particular, Lindskog teaches that the second protector includes means for identifying whether to perform protection switching itself based on the second particular

condition or to notify a third protector of the second particular condition for the third protector to perform protection switching (see column 3, lines 28-34, each node comprises a fault agent that is capable of making a decision as to whether it can fix the fault in the network, and if it cannot, then it forwards an alarm message to its interconnected nodes, and they repeat this operation until the fault is recovered from).

In view of the above, having the apparatus of Finn, then given the well-established teaching of Lindskog, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the apparatus of Finn as taught by Lindskog since Lindskog stated that the recursive way that alarm messages are passed down the hierarchy distributes the work each node has to do to recover from the fault.

Regarding claim 23, Finn discloses that the first protector is configured to register with the detector for notification of the particular condition (see column 15, lines 29-35, node 12a receives information from node 12b, column 15, lines 44-52, the information received from all of the nodes is stored into the routing table for computing the working and protection topologies).

Regarding claim 24, Finn discloses that the second protector is configured to register with the first protector for notification of the particular condition (see column 15, lines 29-35, node 12b receives information from node 12e, column 15, lines 44-52, the information received from all of the nodes is stored into the routing table for computing the working and protection topologies, this occurs at every node, thus the second protector will notify the first protector about its topology as a form of registration).

5. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Finn in view of Ikeda et al. (previously cited US 6,144,633).

Regarding claim 6, Finn discloses that the apparatus further comprises a second protector (see Figure 1, other network node 12b comprising a protection switching module) wherein the second protector is configured to perform protection switching in response to one or more notifications received from the first protector (see column 42, line 67 to column 43, line 4, a node forwards the failure message to other nodes along the paths corresponding to that node), and to register with the first protector to be notified of a particular condition (see column 15, lines 29-35, each node receives information concerning the number of nodes, each node's APS processor does this, as the topology for the network is stored in each node's routing table, therefore the second protector also registers with the first protector), wherein the first protector is configured to receive one or more registration requests from the second protector (see column 15, lines 29-35, each node receives information concerning the number of nodes, each node's APS processor does this, as the topology for the network is stored in each node's routing table, and column 17, lines 34-40, each node transmits its topology information to all the other nodes, which can be interpreted as registering its position and connectivity in the network with the other nodes) and the detector is configured to identify the particular condition, and to notify the first protector of the particular condition upon detection of the particular condition (see column 15, lines 58-65, information concerning the nodes and links and preferred paths among nodes stored in routing table can be accessed and used to re-route automatically the signals through the

secondary or protection path, and see column 40, lines 40-50, upon detection of a failure a help message is broadcast to the nodes in the network to inform them to perform protection switching where needed).

Finn does not explicitly teach that the first protector is configured to notify the second protector upon notification of the particular condition if previously notified of another particular condition else not to notify the second protector of the particular condition, and to register with the detector to be notified of the particular condition.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Ikeda. In particular, Ikeda teaches that the first protector is configured to notify the second protector upon notification of the particular condition if previously notified of another particular condition else not to notify the second protector of the particular condition, and to register with the detector to be notified of the particular condition (see column 25, lines 30-40, if the equipment (first protector) is already performing switching on the protection line needed (was previously notified of another condition), the request is passed through while continuing to switch the previously switched information via an overlap bridge request (forwarding the request to a second protector)).

In view of the above, having the apparatus of Finn, then given the well-established teaching of Ikeda, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the apparatus of Finn as taught by Ikeda since Ikeda stated that high speed transmission can be realized while still maintaining large network tables that carry important network status/failure information.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Curtis A. Alia whose telephone number is (571) 270-3116. The examiner can normally be reached on Monday through Friday, 9am-6pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Aung S. Moe can be reached on (571) 272-7314. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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CAA